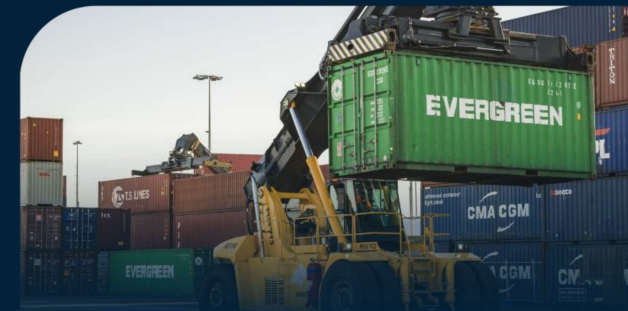


PIANC APAC 2024

# SYDNEY AUTOSTRAD BOTANY RAIL EXPANSION (SABRE)

28 AUGUST 2024



**nswPorts**

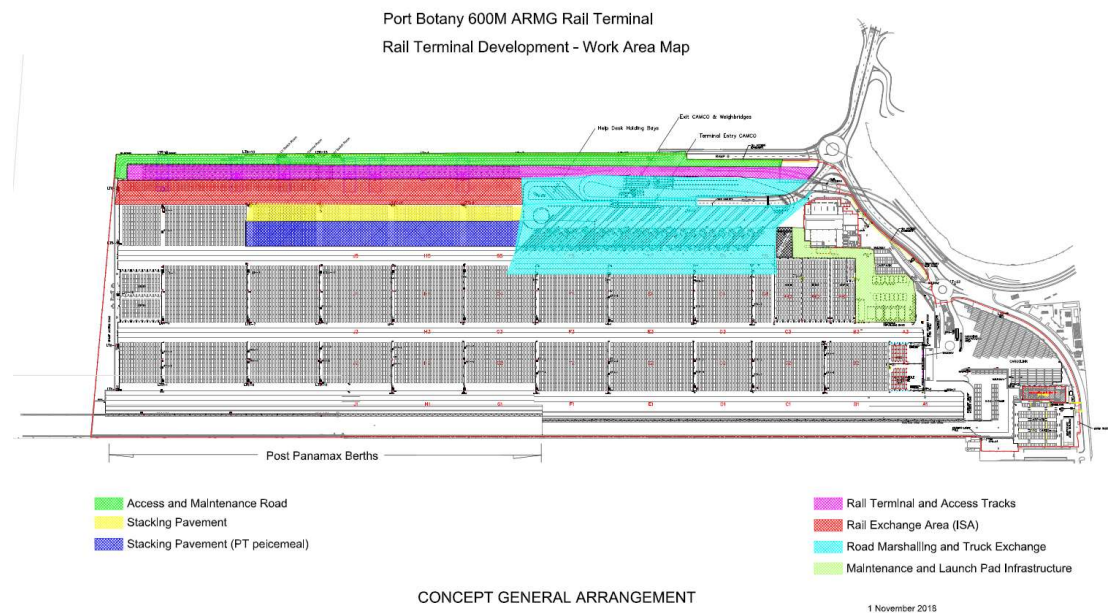
# Context

- Previous rail operations at Patrick Autostrad terminal in Port Botany was manual
- Required multiple handling of the same container
- Congested truck exchange grids
- Reduced total yard capacity
- Low number of available rail windows
- Not a good sustainable operation



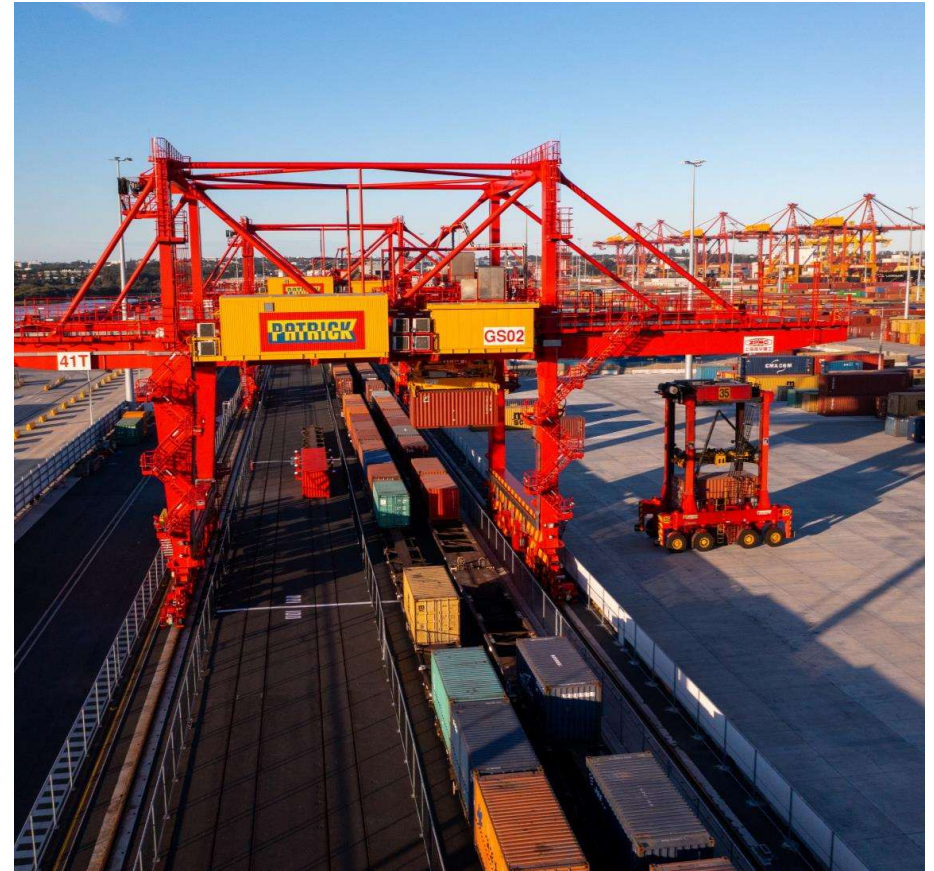
# Solution Development

- Patrick developed a proposal for a new rail terminal and presented to NSW Ports
- Jointly investigating how a rail terminal capacity could be increased and optimized
- Joint funding of project delivery



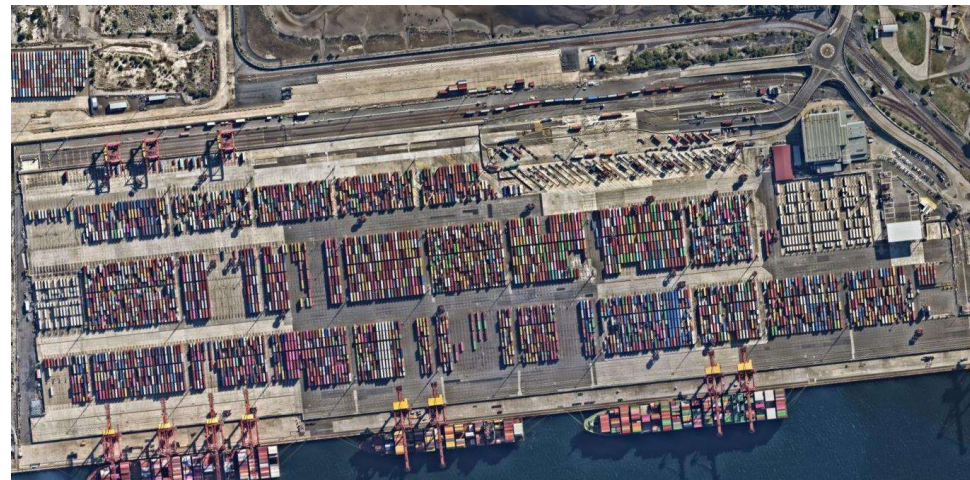
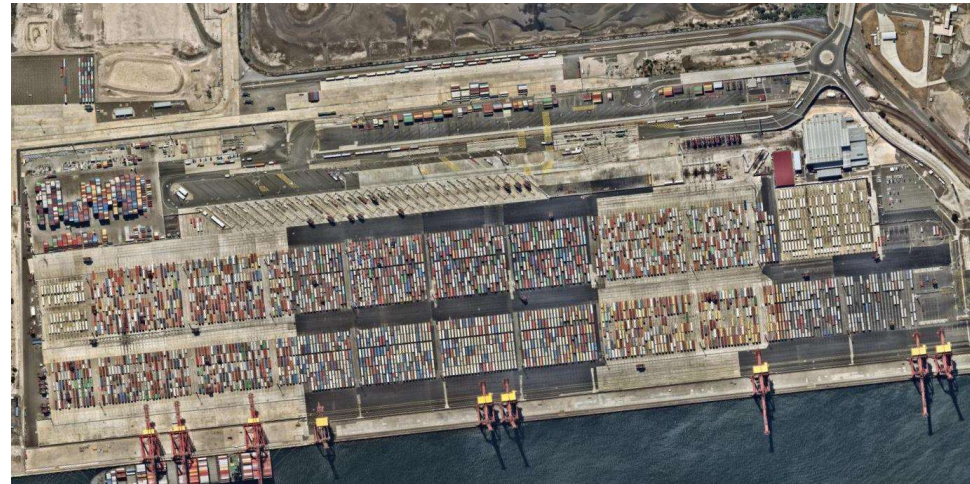
# Project Features

- Four rail sidings each able to accommodate 600 m long train consists
- Automated Rail Mounted Gantry Cranes (ARMG)
- Locomotive shifter
- Train scanning portal on incoming trains
- Increase rail handling capacity from 200,000 TEU to 500,000 TEU with ability to expand to 1,000,000 TEU



# Enabling Works

- Relocation of site entry rail roads
- New rail operations building
- Relocation of truck grids
- Relocation of site truck entry
- Straddle refuel bay relocation
- Extensive pavement upgrade
- Extensive services relocation



# Development

- Development period of 60 months
- Working around operating terminal
- Dedicated project delivery team
- Multiple contracts awarded for the works
- Many delivery interfaces between contracts
- Progressive handover of completed works
- Control systems interfaces with TOS



# Project Benefits

- Increased movement of containers by rail resulting in reduction of trucks around Port Botany
- More rail windows becoming available to new rail operators
- Much improved rail consist turn around times
- Lower carbon emissions from movement of the same number of containers
- Reduced number of movement per container and thereby reduced cost



# Innovation

- SABRE is worlds first fully automated rail terminal that integrates with an automated straddle terminal
- Use a variety of technologies to deliver efficiencies and improve safety
- Remote commissioning of ARMG's through digital twin technology (COVID)
- Locomotive shifter to enable consists to be pulled in in lieu of pushed in





# Awards

